Tumor necrosis factor receptor superfamily members and their ligands.

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The tumor necrosis factor (TNF) receptor family comprises a number of type I integral membrane glycoproteins which exhibit sequence homology in their cysteine-rich extracellular domains. Recently, ligands for many of these receptors have been identified. These molecules all display sequence identity with TNF and lymphotoxin beta, prototype ligands for this receptor family, and have the conformation of type II transmembrane molecules. While certain biological activities are common to many members of this TNF-like family, other activities appear to be shared only by some ligands, or are unique. The identification of the TNF superfamily of ligands has provided the opportunity to compare and contrast the diverse biological effects mediated through the interaction of these related molecules with their receptors.

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ELSEVIER SCIENCE FULL-TEXT ARTICLE

Cloning of equine chemokines eotaxin, monocyte chemoattractant protein (MCP)-1, MCP-2 and MCP-4, mRNA expression in tissues and induction by IL-4 in dermal fibroblasts.

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We report the cloning of four equine CC chemokines, eotaxin, monocyte chemoattractant protein (MCP)-1, MCP-2 and MCP-4, which show high levels of identity with their respective homologous sequences in other species. Using a multiplex RT-PCR, we have studied the constitutive mRNA expression of these four CC chemokines in skin, lung, liver, spleen, jejunum, colon and kidney of normal adult horses and compared this data with the eosinophil counts in the same samples. We demonstrate that eotaxin mRNA is only expressed in jejunum and colon, where there are large numbers of eosinophils suggesting that eotaxin might be recruiting eosinophils in the normal digestive tract of the horse. MCP-1 and MCP-4 are expressed in all tissues whereas MCP-2 is only found in some samples of lung, spleen, liver and kidney. We also report the early induction (2h) of equine eotaxin and MCP-4, and the up-regulation of MCP-1 by interleukin-4 in dermal fibroblasts, suggesting these chemokines might be involved in equine skin allergic diseases.

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